

25 July, 2001

MODIS sensor Working Group (MsWG) Summary

Attendance: Bill Barnes, Bob Evans, Chris Moeller, Eddie Kearns, Eric Vermote, Gary Toller, Jack Xiong, Jim Young, Mike Roberto, Steve Platnick, Stuart Biggar, Suraiya Ahmad, Vince Salomonson, Gwyn Fireman

Note: There will be no MsWG meeting on August 1, due to many participants' attendance at the SPIE meeting.

Scheduled Items

A-side Concerns

Characterization Activity

- Obtained 3 Solar Diffuser observations:
- **one processed (SD screen open and closed mode)**
- **one processed only for the open mode**
- **one observation data set is not available yet**
- SRCA tests:
- spatial mode: processed
- spectral mode: processed
- radiometric mode - waiting for data to be delivered
- RSB SNR & TEB NEdT analyses are complete and values within specs
- Histogram of ADC counts plotted for before and after BB heater turned on; MCST sees no significant difference.

LUT Delivery

- Delivered new LUTs to the Goddard DAAC and to Miami in parallel, on Tuesday. Also delivered version 2.5.5 format LUTs to the DAAC for direct broadcasting users to retrieve.
- The new LUTs became operational July 26. However, an error affecting Band 14hi necessitates a redelivery. Forward data processing is stopped until the redelivery is implemented.
- Level 2 processing has been turned off until further notice.
- The delivered LUT continues earlier linear trending, but with steps corresponding to MODIS electronics configuration changes.

Image Validation

- Miami will look at band-to-band and channel-to-channel differences in ocean products processed using new lookup tables.
- Vermote sent request for granules to process. One granule is not available, and the others have been ordered.

- Biggar will send dates, latitude and longitude so MCST can request and process corresponding granules.

Band 5 Gain Change

Steve Platnick has verified that he would like to reduce Band 5 gain by 25% in order to reduce frequency of saturation.

Action 0107-07: Arrange for Band 5 gain to be reduced by 25% while operating on electronics side A.

Action 0107-08: Provide percent saturation plots for before and after the Band 5 gain change.

SMIR ITWK/VDET

- **TBD:** Shall we reset the SMIR FPA ITWK/VDET to 79/110?
- Current values are at default of 79/190.
- **110/226** setting brought 500m subframes together but induced electronic crosstalk.
- 110/226 setting eliminated crosstalk, but some detectors became inoperative.

The greatest impact would be on SWIR bands: 5,6,7 and 26. MWIR bands 20 - 25 would need to have new a0 and a2 calibration values determined after any **SMIR** ITWK/VDET change; these are measured with each BB warmup and cooldown cycle.

SWIR Band Thermal Leak

- Need to schedule data to be collected in day mode at night in order to determine coefficients.
- Recently delivered LUTs have *no thermal leak correction*.
- Thermal Leak correction is **turned off** in current processing.
- Some effect may be seen in cloud mask from Band 26.

Action 0107-09: Schedule day-mode-at-night tests to determine thermal leak coefficients, for both ITWK/VDET settings under consideration.

Action 0107-10: Add note to DAAC Caveats page about when thermal leak correction was applied in processing.

Other Concerns

SDSM Modeling

MCST modeling work nearing completion. Derived parameters are **close to angles shown in SBRS design drawings**, and provide a close match with on-orbit data.

TBD: Shall we correct the FM1 SDSM screen before launch, or use developed method to correct on-orbit data?

Crosstalk Correction

MCST is testing B-side data to determine if the same approach should be applied to A-side. Research code changes are complete; code is in testing, and results are expected in about two weeks.

Around the Table

Barnes:

- FM1 Band 1 and 2 out-of-family behavior was due to changes in SRCA SIS output radiance, not to intrinsic detector changes. SRCA was operated in ambient, not thermal vac.

Roberto:

Further investigation into details of the recent PS-2 failure supports earlier conclusions by the MODIS Anomaly Resolution Team. A final anomaly report is to be delivered on Monday, after which it will be considered whether MODIS should be configured to use B-side components with Power Supply 1 and Telemetry and Command Processor A.

Ahmad:

Q: When will Caveats page discussing A-side data being processed with B-side LUTs be delivered?

A: Vince Salomonson – text is approved.

Text was subsequently delivered to the DAAC and to MCSTWeb on July 26.

Evans/Kearns:

Earlier reports of ADC noise being less before BB heater was turned on were probably not based on enough data. Xiong suggests also looking at granules taken during BB cool-down.

Results of A-side analysis of SST and ocean color products are expected by the end of next week.

Moeller:

Charts of Band 26 B-side data show same noise as the previous 6 months MODIS was operating on side B. At that time a different VDET was applied to SWIR bands, but changes in that parameter are not expected to affect noise.

Young:

Will send tolerances for SDSM measurements so MCST can calculate expected uncertainty, as requested by Barnes.

compiled by G. Fireman 26 July, 2001